



BILL RICHARDSON  
GOVERNOR

*State of New Mexico*  
**ENVIRONMENT DEPARTMENT**

*Hazardous Waste Bureau*  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, New Mexico 87505-6303  
Telephone (505) 428-2500  
Fax (505) 428-2567  
www.nmenv.state.nm.us



RON CURRY  
SECRETARY

DERRITH WATCHMAN-MOORE  
DEPUTY SECRETARY

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

September 1, 2005

Mr. Lloyd L. Piper, Acting Manager  
Carlsbad Field Office  
Department of Energy  
P.O. Box 3090  
Carlsbad, New Mexico 88221-3090

Mr. Richard D. Raaz, General Manager  
Washington TRU Solutions LLC  
P.O. Box 2078  
Carlsbad, New Mexico 88221-5608

**RE: NOTICE OF DEFICIENCY (NOD), CONSOLIDATED RESPONSE TO NOD CLASS 3 PERMIT MODIFICATION REQUEST SUBMITTED IN ACCORDANCE WITH PUB. L. 108-137, SECTION 311 AND SECOND NOD FOR RH TRU WASTE WIPP HAZARDOUS WASTE FACILITY PERMIT EPA I.D. NUMBER NM4890139088**

Dear Messrs. Piper and Raaz:

The New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) has reviewed the following document submitted by the U.S. Department of Energy (DOE) and Washington TRU Solutions LLC (collectively referred to as the **Permittees**) for administrative completeness and technical adequacy:

- *Comments-Consolidated Response to NOD, Class 3 PMR Submitted in Accordance with Pub. L. 108-137, Section 311, and Second NOD, Class 3 NOD for RH TRU Waste, WIPP Hazardous Waste Facility Permit (June 10, 2005, hereinafter referred to as the Consolidated Response Document)*

This Consolidated Response Document is currently being processed by NMED in accordance with the requirements specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.42(c)). The original Consolidated Response Document, submitted on April 29, 2005, was subject to an initial 60-day public comment period from May 6 until July 5, 2005, which was subsequently extended to August 12, 2005 following submittal of the June 10, 2005 revision to the document. At the close of the public comment period, NMED had received comments from 27 individuals and groups totaling approximately 100 pages. NMED also received approximately 1500 post cards from

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citizens stating opposition to DOE's plans, asking NMED to deny the proposed Consolidated Response Document, and retain the current permit.

NMED has determined that this Consolidated Response Document, submitted by the Permittees pursuant to Section 310 of the Consolidated Appropriations Act for Fiscal Year 2005, Public Law 108-447 (Sections 310/311), and 40 CFR §270.42(c) is administratively complete. The New Mexico Hazardous Waste Fee Regulations require assessment of fees when administrative review of a document is complete, as specified in 20.4.2.301 NMAC. NMED will issue an invoice to you under a separate letter. Payment is due within sixty (60) calendar days from the date that you receive the invoice.

After reviewing the Consolidated Response Document, NMED has found it to be technically deficient. The attached Notice of Deficiency (**NOD**) comments list the technical deficiencies that must be corrected before NMED will consider preparing a draft permit. The NOD comments, therefore, contain requests for specific information regarding the proposed revisions to the waste analysis plan (**WAP**) for both contact and remote handled (RH) wastes and the disposal room performance standards.

Starting in mid-January and continuing through March of this year, NMED participated in numerous informal meetings with the Permittees to discuss the development of a response to the Section 311 NOD. In these discussions, the Permittees agreed to develop a revised permit modification request (**PMR**) intended both to implement the language of Section 311 and to address the characterization and disposal of RH waste at WIPP. The resulting Consolidated Response Document is the most comprehensive proposed modification of the WIPP Permit since the Permit was originally issued. The proposed changes include, but are not limited to, the following:

- ❑ Significant changes to the waste characterization process;
- ❑ The addition of a waste confirmation procedure;
- ❑ A revision that would allow WIPP to accept remote handled (RH) TRU-wastes;
- ❑ A request for increased storage capacity; and
- ❑ The designation of separate staging areas for wastes undergoing waste confirmation prior to storage and disposal.

While NMED believes that the Permittees have made significant strides in their proposal to modify the current Permit in a unified manner that is consistent with Sections 310/311 and the New Mexico Hazardous Waste Act, there are still issues of concern that require clarification. These issues of concern include, but are not limited to:

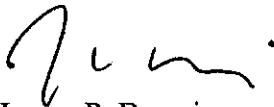
- ❑ The proposed changes to the Waste Analysis Plan appear to remove the current framework of chemical sampling and analysis on nearly all containers, and replacing it with determinations of AK sufficiency. As proposed in the Consolidated Response Document, such determinations are based on undefined or unspecified criteria.

- ☐ The Consolidated Response Document does not address a major question: If the Permittees identify a container with a prohibited item during confirmation activities at WIPP, how will the Permittees remedy the problem?
- ☐ NMED's audit role is not clear.

Please submit a full response to the deficiencies identified in the attachment and a revised permit modification request to NMED within sixty (60) days of receipt of this NOD. We understand that a full response to some of the comments listed in this NOD may require more than 60 days to develop. For this reason, NMED will consider a petition to extend the deadline for portions of the required information if you provide a written justification and expected submittal date for each portion. This petition must also be submitted within 60 days of receipt of the NOD.

If you have any questions regarding this matter, please contact me at (505) 428-2512.

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

Attachment — NMED Notice of Deficiency Comments

cc: Cindy Padilla, NMED WWMD  
John Kieling, NMED HWB  
Steve Zappe, NMED HWB  
Bryon Pippin, NMED HWB  
Tracy Hughes, NMED OGC  
Chuck Noble, NMED OGC  
Laurie King, EPA Region 6  
Sharon White, EPA ORIA  
Connie Walker, Trinity Engineering Associates  
File: Red WIPP '05

**Attachment**

**NMED Notice of Deficiency Comments**

**Consolidated Response to NOD, Class 3 Permit Modification Request Submitted in  
Accordance with Pub. L. 108-137, Section 311 and Second NOD for RH TRU Waste**

## NMED NOTICE OF DEFICIENCY COMMENTS

ON

**CONSOLIDATED RESPONSE TO NOD, CLASS 3 PERMIT MODIFICATION REQUEST SUBMITTED  
IN ACCORDANCE WITH PUB. L. 108-137, SECTION 311 AND SECOND NOD FOR RH TRU  
WASTE  
WIPP HAZARDOUS WASTE FACILITY PERMIT  
EPA I.D. NUMBER NM 4890139088**

### **Introduction**

The comments herein reflect the New Mexico Environment Department's (NMED's) analysis of the June 10, 2005 *Consolidated Response to NOD, Class 3 PMR Submitted in Accordance with Pub. L. 108-137, Section 311, and Second NOD, Class 3 NOD for RH TRU Waste, WIPP Hazardous Waste Facility Permit* (Consolidated Response Document), which was submitted by the U.S. Department of Energy (DOE) and Washington TRU Solutions LLC (collectively referred to as the **Permittees**). NMED concludes that the Permittees have not adequately explained the changes proposed in the Consolidated Response Document and established that they both comply with applicable laws and regulations and are supported by objective technical evidence.

### **Chronology**

The following is a chronology of the events and submittals that have lead to the Consolidated Response Document:

- *June 28, 2002.* NMED received the Class 3 Remote-Handled (RH) Transuranic (TRU) Waste Permit Modification Request (PMR) submitted by the Permittees;
- *March 5, 2003.* NMED issued a Notice of Deficiency (NOD) for the RH PMR;
- *May 5, 2003.* NMED received the Permittees' response to the RH NOD and a revised PMR;
- *August 8, 2003.* NMED provided a partial response to Permittees' questions in their May 5, 2003 transmittal letter;
- *December 1, 2003.* Section 311 of the Energy and Water Development Appropriations Act for Fiscal Year 2004, Public Law 108-137 (**Section 311**) was enacted;
- *January 9, 2004.* NMED received a Class 3 PMR developed by the Permittees pursuant to Section 311;
- *December 8, 2004.* Section 310 of the Consolidated Appropriations Act for 2005, Public Law 108-447 (**Section 310**) was enacted;
- *December 30, 2004.* NMED issued a NOD for the Section 311 PMR;
- *January 2005 through March 2005.* NMED and the Permittees held informal meetings to discuss the development of a response to the Section 311 NOD;
- *February 28, 2005.* NMED granted the Permittees' request for an extension of time to respond to the Section 311 NOD until March 30, 2005;
- *March 29, 2005.* NMED issued a second NOD for the RH PMR, which directed the Permittees to develop a consolidated response for CH and RH TRU mixed wastes. This NOD also granted the Permittees an 30-day extension, until April 29, 2005, to respond to both the Section 311 and second RH NODs;

- *April 29, 2005.* NMED received the Consolidated Response Document from the Permittees;
- *May 17, 2005.* The Permittees held a public meeting in Carlsbad for the Consolidated Response Document;
- *May 17, 2005.* The Permittees submitted errata related to Modules II and III of the Consolidated Response Document to NMED;
- *May 19, 2005.* The Permittees held a public meeting in Santa Fe for the Consolidated Response Document; and
- *June 10, 2005.* NMED received a revised Consolidated Response Document from the Permittees and extended the public comment period to August 12, 2005.

### **Regulatory and Policy Framework**

The current Hazardous Waste Facility Permit contains a Waste Analysis Plan that describes waste characterization activities that must be performed at the generator/storage sites before the waste can be received at WIPP. The primary objective of the general waste analysis requirements codified in 20.4.1.500 NMAC (incorporating 40 CFR §264.13) is to ensure that: "At a minimum, the analysis *must contain all of the information* which must be known to treat, store, or dispose of the waste in accordance with this part..." (emphasis added). At WIPP these waste characterization requirements are focused on obtaining the following information:

- The physical form of the waste (homogeneous solids, soil or gravel or debris), and;
- Identification of any of the following prohibited items:
  - Free liquids;
  - Non-radionuclide pyrophoric materials;
  - Hazardous wastes that are not mixed with TRU wastes;
  - Chemically incompatible wastes;
  - Explosives and compressed gases;
  - Polychlorinated biphenyls not authorized under an EPA waste disposal authorization;
  - Ignitable, corrosive and reactive wastes; and
  - Remote-handled TRU mixed wastes.

The current TRU mixed waste characterization program implemented in the Permit is based upon the characterization program developed by DOE in their *Transuranic Waste Characterization Sampling and Analysis Methods Manual, Revision 1, April 1996*. DOE developed this program to address needs for characterizing TRU waste to satisfy transportation and disposal requirements. The Permittees' original waste characterization program, which was incorporated into the permit application and ultimately the final permit itself, included detailed requirements for the following procedures:

- Collection of headspace gas samples;
- Collection of homogeneous solids and soil/gravel samples;

- Non-destructive, X-ray scanning of waste containers using radiography;
- Visually examining the type and amount of waste material in each container, including its use to verify the results of radiography; and
- Analysis of organic and inorganic compounds.

The National Research Council identified the following general challenges related to the characterization of TRU wastes in their 2004 report entitled *Improving the Characterization Program for Contact-Handled Transuranic Waste Bound for the Waste Isolation Pilot Plant*:

- High characterization costs and variability in estimates;
- Multiple generator sites;
- Wide variety of waste streams;
- Wide variation in knowledge of waste nature; and
- Programmatic uncertainties.

The same report identified the following challenging waste streams that are destined for WIPP:

- Waste with high potential for generating flammable gas;
- Oversized containers;
- Fissile isotope content;
- Highly variable legacy waste generated in research laboratories;
- Prohibited items; and
- Remote-handled waste.

NMED has considered a more flexible waste characterization program that takes into account the lessons learned during the six years that the current permit has been in effect. In fact, NMED has already worked with the Permittees on several occasions in the past to modify Permit waste characterization requirements, including but not limited to:

- Allowing the compositing of headspace gas samples prior to analysis for waste at the Idaho National Laboratory, which enable the facility to achieve its target date of 2002 for the first 3,100 cubic meters of TRU waste shipped to WIPP;
- Allowing statistical headspace gas sampling and analysis for thermally treated waste, which enabled Rocky Flats to save more than \$30 million dollars in characterization costs for 17,300 drums of residues in pipe overpacks; and
- Allowing facilities to perform visual examination as a quality control check on radiography on a summary category group rather than on individual waste streams for determining the miscertification rate. This change saved Rocky Flats more than \$19 million by not having to determine and implement a miscertification rate for every waste stream.

NMED recognizes that the Permittees believe that Section 311 changes the application of RCRA to WIPP. Nevertheless, any revisions to the WIPP TRU-mixed waste characterization program need to be made within the context of the following guiding principles:

- CH and RH TRU mixed wastes must be accurately characterized, including confirmatory characterization activities, and found acceptable before shipment from the generator/storage site to WIPP;
- The WIPP waste characterization process is required and defined by applicable RCRA regulations and the WIPP administrative record, in addition to Sections 310 and 311; and
- The current waste characterization process in the WIPP permit is consistent with RCRA and the New Mexico Hazardous Waste Act. The Permittees must establish that their proposed changes both comply with applicable law and regulations and are supported by objective technical data.

### Definitions

Clear, unambiguous definitions of key terms that will be used in the revised Permit are necessary for:

- Ensuring the Permittees' compliance with the Permit;
- Promoting consistent and fair Permit enforcement by NMED; and
- Fostering public understanding.

A term that is frequently employed in the Consolidated Response Document that NMED believes should be more precisely defined is acceptable knowledge (AK). Acceptable knowledge is the compilation of all relevant historical information on the waste into an auditable record. According to the definition of AK provided in the EPA guidance referenced above, AK may consist of a variety of information sources including, but not limited to, the following:

- "Process knowledge," whereby detailed information on the wastes is obtained from existing published or documented waste analysis data or studies conducted on hazardous wastes generated by processes similar to that which generated the waste;
- Waste analysis data obtained from facilities which send wastes off site for treatment, storage, or disposal (e.g., generators); and
- The facility's records of analysis performed before the effective date of RCRA regulations.

The use of AK for characterization of CH TRU mixed wastes is summarized in *Improving the Characterization Program for Contact-Handled Transuranic Waste Bound for the Waste Isolation Pilot Plant* (2004, National Academy of Sciences):

*"The concept and use of AK is central to the characterization program for TRU waste because it determines the sampling and characterization regimen for the waste. The AK*



*process delineates the waste stream. If the required elements cannot be documented in the AK summary, the waste must be treated as 'newly generated waste' according to DOE's terminology. AK forms the basis against which the results of other characterization methods are compared. This process is termed 'confirmation of AK.' The characterization methods used to confirm AK include non-destructive assay, headspace gas sampling and analysis, radiography, visual examination and homogeneous solids sampling and analysis."*

This use of the term AK is consistent with the NMED's and EPA's definition. The definition of AK does not include both historical and newly generated characterization information collected at the time of waste generation, packaging, and re-packaging. Using the same term for both historical and newly generated waste information is inappropriate due to the differences in the characterization approaches for CH and RH TRU wastes and is inconsistent with well-established definitions in the regulatory community and the WIPP administrative record. The majority of CH TRU waste will require some level of additional characterization beyond AK (e.g., using headspace gas sampling and analysis, radiography, visual examination and homogeneous solids sampling and analysis) while 95% of RH TRU wastes will be characterized during packaging or re-packaging.

The National Academy of Sciences Committee on the Characterization of Remote-Handled Transuranic Waste for the Waste Isolation Pilot Plant stated in their 2002 report:

*"The Committee recommends that DOE use a different term than AK for this newly generated information (during the packaging or re-packaging of RH TRU waste). Using AK for both historical and newly generated information is potentially confusing because AK is generally associated with historical information, which requires some type of confirmation." (Emphasis in original)*

The Permittees must clearly explain whether, and how, their definition of AK differs from that discussed above.

### **General Comments**

- ***Removal of the chemical sampling and analysis as the primary framework for waste characterization***

While chemical sampling and analysis is an integral component of accurate waste characterization for most CH TRU-mixed wastes, according to the Consolidated Response Document a determination of AK sufficiency could obviate the need for such sampling. In fact, the proposed changes to the Waste Analysis Plan appear to remove the current framework of chemical sampling and analysis on nearly all containers, replacing it with determinations of AK sufficiency in nearly every case. The Document is silent, however, as to the standards that will

be used to make the determinations of AK sufficiency. The Permittees must specify these standards or criteria in their response to this NOD.

- ***Identification and remedy of containers with prohibited items at WIPP***

The Consolidated Response Document does not address a major question: If the Permittees identify a container with a prohibited item during confirmation activities at WIPP, how will the Permittees remedy the problem? Under the current permit, the Permittees perform audits at the generator/storage sites rather than performing any on-site characterization at WIPP, which is consistent with the Permittees' "Start Clean-Stay Clean" operating philosophy. The Consolidated Response Document proposes that waste confirmation activities may occur at either the generator/storage site or at WIPP. The Permittees would confirm that the waste stream contains no ignitable, reactive, or corrosive materials through radiography or visual examination of a statistically representative subpopulation of the waste stream prior to storage or disposal. These confirmation activities would be performed either at WIPP after the shipment is received or at the generator/storage site prior to receipt. Because the Permittees are not proposing to open waste containers at WIPP, visual examination performed at WIPP would be accomplished by having a trained Permittee visual examination operator review video media prepared by the generator/storage site during their visual examination of the waste.

If noncompliant waste is identified during confirmation at WIPP, the Consolidated Response Document states "... the entire shipment or the non-conforming portion of the shipment, will be returned to the generator/storage site or another off-site facility." The Permittees appear to have no established procedure for ensuring that a container at WIPP discovered to have a prohibited item in it is safe for the return shipment to the generator/storage site or other off-site facility. The Permittees must develop a strategy for addressing this possibility in their response to this NOD.

- ***NMED's audit role***

The Consolidated Response Document states that NMED personnel may continue to observe audits performed by the Permittees at generator/storage sites to validate the implementation of the Waste Analysis Plan (WAP) requirements at each site and may also observe audits at the Permittee-approved laboratories performing waste analysis pursuant to the WAP. It then goes on to state: "For waste analysis processes performed for multiple sites by a single entity (e.g., mobile waste analysis vendors, Permittee-approved laboratories) the procedures and processes used by these single entities will be audited at least annually for at least one site." NMED understands that these single entity audits would also include audits of unique pieces of equipment.

## **Technical Comments**

### **A. General Comments**

1. The Consolidated Response Document includes an extensive response to the previous NOD comments. NMED provides no commentary as to the adequacy of any responses, except for those explicitly referenced and discussed in this NOD.
2. The Permittees have eliminated the term "manage" throughout the Permit as it relates to their responsibilities to store and dispose of hazardous wastes. However, 40 CFR §264.1(a) relating to TSD facility standards states as follows:

"The purpose of this part is to establish minimum national standards which define the acceptable management of hazardous waste"

Therefore, "manage" and "management" are appropriate terms for the permit. The Permittees' must explain why the term "manage" was removed from the proposed permit throughout the Permit modules and attachments.

3. The proposed waste analysis process includes a determination of AK sufficiency by NMED following an AK sufficiency determination by the Permittees. It is the Permittees' responsibility to determine whether waste analysis or characterization is acceptable; NMED shall evaluate whether the *approval* made by the Permittees appears adequate. This Permittees must ensure this procedure is reflected in the PMR.

#### **B. General Waste Characterization Process**

The proposed waste characterization process is not clearly or consistently portrayed. The process depicted in Figures 1 and 2 of the Description of Permit Modification Request and the text of Attachment B raises numerous issues, described below.

1. Process flow diagram *Figure 1, Waste Stream Approval Process*, appears in the introduction of the Consolidated Response Document narrative. Since this figure is not provided as part of the permit modification or part of the permit attachments, it is not subject to NMED action on the Permit. This figure should be incorporated into Attachment B7, so that the figure is part of the actual permit.

In addition, Figure 1 implies that sites have the option of deciding whether to pursue the AK sufficiency determination vs. reduced sampling and analysis route, but language in the text of the PMR implies that the reduced sampling and analysis route will only be an option once an AK sufficiency determination is denied. The Permittees should resolve this inconsistency. The figure should also provide another box after the "reject WSPF" box that indicates what the next action is regarding the rejected waste/form. NMED assumes that Figure 1 is a correct representation of the proposed process, assuming that it can be revised to indicate what will take place when a rejection of a WSPF or any other type of rejection is adequately portrayed.

2. In the event that NMED does not concur with the Permittees' AK sufficiency determination (e.g., due to the inability of AK to determine the presence of prohibited items, waste material parameter weight estimates, other permit requirements that cannot be evaluated by headspace gas or solid sampling, etc.), the sampling and analysis route in Figure 1 includes no way to evaluate the waste for these deficiencies. The process also does not appear to explicitly allow the waste to undergo any other data acquisition processes (e.g., a brief, qualitative radiography scan of drums, etc.) that could quickly and cost effectively resolve the issue. The Permittees should modify the processes accordingly, and provide explanation.
3. The process described does not include a non-destructive examination process that a site may implement as part of the sampling and analysis approach. Justify this omission or revise the PMR to include some process as part of the sampling pathway whereby a generator site can evaluate their waste for items that cannot be detected by headspace gas or solid sampling.
4. Process flow diagram *Figure 2, Approach for Solid and Headspace Gas Sampling and Analysis to Obtain Supplemental Waste Analysis Information*, also appears in the introduction of the Consolidated Response Document narrative. This figure should be incorporated into Attachment B7, so that the figure is part of the actual permit.
5. The footnote in Figure 2 states: "Samples are obtained from the first five (5) available random locations for solid sampling and the first ten (10) available random locations for headspace gas sampling." Attachment B7, Figures B7-3, B7-4, and other associated Waste Analysis Plan Attachments do not state that samples will be taken from these locations. Clarify this issue, and modify as necessary the appropriate WAP Attachment.
6. The Consolidated Response Document eliminates the requirement for headspace gas (HSG) sampling and analysis on S3000 and S4000 waste streams, even if the AK information is incomplete. HSG is still required for debris waste in this circumstance. The table listing Change and Explanation of Change for this portion of B1 states that the justification for this change is found in Section 1.2.1 of the Consolidated Response Document and Appendix 1 of the Section 311 NOD comment/response matrix. The referenced section of the Consolidated Response Document does not provide justification for this change, only that the change will be made. Appendix 1 of the Section 311 NOD comment/response matrix, Topic Headspace Gas Sampling and Analysis, again states that only S5000 waste will be subject to HSG but does not explain why S3000 and S4000 waste will not be. Affected sections of the Permit include but are not limited to:
  - o Attachment B1, Table B1-7, B1-8, and Table B1-10
  - o Attachment B-1, Section B1-a, *Method Requirements*, pages B1-1 to B1-2
  - o Attachment B, Section B-3(a)(1), *Headspace Gas Sampling and Analysis*, page B-13, last paragraph

Revise the PMR to justify the elimination of HSG sampling and analysis for S3000 and S4000 waste streams, or include HSG sampling for these waste streams.

7. The Consolidated Response Document eliminates RTR and VE from the Permit as characterization options for generator sites, but states in Section B-3c that the “generator/storage site shall perform radiography or VE on 100 percent of containers in waste streams where acceptable knowledge does not substantiate the absence of prohibited items. Radiography or VE used by generator /storage sites is not required to be performed in accordance with methods in the HWFP.” It is unclear based on Figure 1 at what point in the waste characterization process this 100% RTR/VE action would take place. Locations in the Consolidated Response Document that deal with this issue include but are not limited to:
- Description of the Revised Permit Modification Request, Section 1.2.2.2, *Radiography, VE or Review of VE Records*, page 10, 3<sup>rd</sup> paragraph.
  - B-3c, Radiography and Visual Examination, page B-18, last paragraph
  - Attachment B3, *Radiography*, pages B3-12 through B3-13

Revise the PMR to clarify at what point in the waste characterization process generator sites would be required to perform 100% RTR/VE.

8. Although RTR and VE are considered to be “verification and examination processes” in Attachment B7, the data generated by these methods are used for the same purpose as in the current Permit (i.e., to assess if the waste is eligible for disposal at WIPP). It is critical, therefore, that these data be accurate, reliable and of the highest quality. The changes proposed for RTR and VE do not appear to be related to Section 311 and will very likely severely weaken and compromise RTR and VE data, and increase the risk of emplacing waste that is not suitable for disposal at WIPP. These changes include:
- a) **Attachment B1, Section B1-3, Visual Examination, page 27, all paragraphs in section.** The method requirements for radiography have been deleted in their entirety in this section of the proposed Permit. Justify the deletion of RTR method requirements, or include appropriate method requirements.
  - b) **Attachment B1, Section B1-3, Visual Examination, page 27, 1<sup>st</sup> paragraph.** The B6-5 and B6-6 checklists for RTR and VE have been deleted from Attachment B6 of the proposed Permit. Justify elimination of the RTR and VE checklists from Attachment B6, or reinstate them.
  - c) **Attachment B, Section B-2, Waste Analysis Program Requirements and Waste Analysis Parameters, page 12.** The Permittees did not explain why VE was included and RTR excluded from this section. Provide an explanation for not including RTR performance standards, or include appropriate standards.

- d) **Attachment B7, Section B7-1b(5)(ii), Radiography Oversight, page 13, 1<sup>st</sup> paragraph.** The RTR training drum is not required to contain prohibited items. As successful examination of the training drum contents is an important part of RTR operator training, these items should be added. Justify excluding prohibited items from the RTR training drum, or include them.
  - e) **Attachment B7, Section B7-1b(5)(ii), Radiography Oversight, page 13, 3<sup>rd</sup> paragraph.** Both the generator/storage site and WIPP are responsible for the quality of the data they produce and for adequate review of those data. The Permittees did not provide information on how the quality of RTR data would be monitored nor how the corrective action process would be implemented. Provide this information.
  - f) **Standard Operating Procedures (SOPs) are no longer required for RTR and VE.** The justification provided by the Permittees is that RTR and VE are not included in waste analysis. However classified, the data generated by RTR and VE will be used for the same purpose in the proposed Permit as in the current Permit and should be generated under the same requirements. Without SOPs, the Permittees cannot assure the accuracy and consistency of the data generated. Attachment B-7, Section B7-1b(5) contradicts the above by stating that RTR SOPs will be generated. The Permittees must resolve this discrepancy. Affected sections of the PMR include but are not limited to:
    - Attachment B-5-1, *Quality Assurance Project Plan Requirements*
    - Attachment B-3c, Radiography and Visual Examination, pages 17 and 18, 1<sup>st</sup> paragraph.
9. The Permittees make the following statement in the discussion of the use of VE as a method of confirmation in Section B7-1b(6): "Because waste containers will not be opened at the WIPP site ... visual examination for waste examination may be performed by review, by trained Permittee visual examination operators, of video media prepared by the generator/storage site during their visual examination of the waste." As stated above, the Permittees have removed all method descriptions for VE from the Consolidated Response Document. If review of VE media is to be used for confirmation, the Permittees must establish methods for the generator/storage sites performance of VE.
10. The Permittees propose that any waste container from a waste stream or waste stream lot which has not undergone non-destructive examination of a statistically representative subpopulation of waste pursuant to Permit Attachment B7 is prohibited from storage or disposal. However, all other references to statistical non-destructive examination is based on shipments, not waste streams. The Permittees must resolve this discrepancy.

### C. Acceptable Knowledge

The Consolidated Response Document calls for AK to be the primary method by which waste will be characterized. While much of the AK program currently in place remains intact, specific

changes to the program have been proposed in the Consolidated Response Document that, without further clarification or information, appear to unnecessarily weaken the AK program.

11. The Consolidated Response Document changes the collection of supplemental data to support mandatory data requirement (Permit Attachment B4, Section B4-2c, *Supplemental Acceptable Knowledge Information*, page B4-5, 1<sup>st</sup> ¶) from being a required to an optional activity. The Permittees claim that the robustness of the current AK program has allowed them to submit this PMR to decrease the sampling and analysis requirements, but this particular change significantly undermines the AK program. The reason that supplemental information is required is so that the generator sites do not rely on a single piece of data from a document without ensuring that the information in this document can be adequately supported. Revise the PMR to remove the suggested language.
12. The Consolidated Response Document provided a listing of six items in Permit Attachment B, *Introduction and Attachment Highlights*, page B-5, which will be included in the AK Sufficiency Determination. The following must also be addressed:
  - a) TSDF-WAC requirements other than Permit Conditions II.C.3.a-h must be specified in the listing;
  - b) The listing says that mandatory AK information must be available. This information must be provided with the AK Sufficiency Determination. Similarly, supplemental information supporting the mandatory data must be provided, as a thorough review of the submission cannot be accomplished without this;
  - c) The criteria or required contents of the AK generator site assessment of the AK process should specify that this assessment must address compliance with Appendix B4 of the WAP; and
  - d) The AK Sufficiency Determination must include sufficient information for the Permittees to determine whether the five bullets presented in Attachment B4, Section B4-1 have been adequately addressed.
13. The Consolidated Response Document indicates (Attachment B, *Introduction and Attachment Highlights*, page B-5, 4<sup>th</sup> ¶) that once the Permittees have determined that AK is sufficient, NMED will then be requested to provide an AK Sufficiency Determination. The Consolidated Response Document must specify that NMED has the authority to request all information provided to the Permittees when making their AK sufficiency determination, and that NMED also has the authority to request additional information from the Permittees if necessary to resolve any questions or issues that might arise.
14. The Consolidated Response Document provides the required contents of the AK Sufficiency Determination submission (Attachment B, page B-5), but does not state the criteria by which this information will be evaluated by the Permittees. At a minimum, the data submitted must be evaluated to determine the technical and regulatory adequacy of

the hazardous waste number assignments, completeness of these assignments, adequacy of prohibited item identification, adequacy of waste stream identification, adequacy of waste material parameter weight estimates, and other relevant information. AK must meet the technical requirement of providing a detailed chemical and physical analysis of a representative sample of the waste stream. Additionally, the definition of waste stream must be sufficiently succinct and specific enough to clearly identify processes involved and to ensure that appropriate waste populations are identified. None of the bulleted items in the AK Sufficiency Determination Listing explicitly state that the technical adequacy of these elements will be evaluated. The Permittees must modify the PMR accordingly.

15. In Attachment B4, Section B4-2b, *Required TRU Mixed Waste Stream Information*, page B4-4, the Consolidated Response Document removes the requirements in the bulleted listing specific to newly generated waste, but requirements that waste generating procedures requiring documentation and verification of waste contents during packaging are retained. Justify the removal of the requirements for newly generated waste.
16. The bulleted list in Attachment B4, Section B4-3b, *Acceptable Knowledge Assembly and Compilation and Required Administrative Controls*, page B4-9 pertaining to administrative controls over prohibited items implies that the waste generation is ongoing. Clarify whether sites must demonstrate that each of these same bullets were in effect when retrievably stored waste was generated.
17. The Permittees have removed discussion of "confirmation" of AK at the WIPP facility from Attachment B4, former Section B4-4, *Additional Final Confirmation of Acceptable Knowledge at the WIPP Facility*, page B4-17, but information presented in this deleted section included important comparisons and data evaluation processes. Explicitly identify all elements of this section that were editorially revised and moved to the new Attachment B7, and justify the exclusion of any elements that were deleted and not moved.
18. The AK Accuracy calculation discussion in Attachment B3, Section B3-8, *Acceptable Knowledge*, Page B3-20, 2<sup>nd</sup> bullet, does not include a quantitative way to calculate AK accuracy, nor any consequences or trigger points that would cause the Permittees to take a certain course of action. Similarly, there is no quantitative comparison between measured sampling and analysis data and AK that would trigger an increase in the sampling rate. The Permittees must provide consequences or quantitative triggers for AK accuracy data quality requirements or differences between AK and measured data.

#### **D. Contact Handled TRU Waste Analysis Plan Questions**

19. Section B-2, *Waste Analysis Program Requirements and Waste Analysis Parameters*, pages B-11 and B-12, 2<sup>nd</sup> paragraph and 1<sup>st</sup> paragraph, respectively, of the Consolidated Response Document provides procedures that specify "waste analysis program



requirements.” Under the current permit, these procedures are assessed as part of the audit program, but it is unclear why these are now included as a separate provision requirement. NMED assumes these procedures will still be examined during audits. Also, on page B-12, the Consolidated Response Document removes the requirement to “confirm” physical waste form, but the sites must still “determine” the physical waste form (i.e., Waste Matrix Code [WMC], Summary Category Group [SCG]), as well as the exclusion of prohibited items. The PMR should be revised to include the determination of physical form and exclusion of prohibited items. No justification was found for excluding the identification of hazardous constituents, which would ensure correct hazardous waste number assignment and continued compliance with Subpart X risk assessment analysis results.

20. Based upon the Waste Analysis Information Summary Contents in Attachment B3, Section B3-11b(2), page B3-44, 4<sup>th</sup>, 6<sup>th</sup>, and 9<sup>th</sup> bullets, it appears that the WAIS is to take the place of the Characterization Information Summary. If so, it must include total solid sampling analysis results and radiography and visual examination results from the Permittees as an attachment, or included in the Waste Stream Waste Analysis Package. Further, there is no discussion of the “method for determining waste material parameter weights per unit of waste” discussed elsewhere; reference to where this is specifically addressed in the Consolidated Response Document should be provided here.

#### **E. Statistical Questions**

21. 40 CFR §264.13(a)(4) indicates that each hazardous waste movement must be inspected and 40 CFR §264.13(b) indicates that the WAP must specify the frequency. The Permittees have not adequately indicated how the 7% figure was derived and what actions would be taken if their inspections illustrate that the waste did not correspond to the manifested hazardous waste descriptions, if prohibited items were found, or if the waste was characteristic as defined in 40 CFR §261.21-23; or what recourse the Permittees have to increase the level of inspection for problematic waste streams or generators. Revise relevant sections of the PMR, including Attachment B7, *Permittees Examination of a Representative Subpopulation of the Waste*, Page B7-12, 2<sup>nd</sup> paragraph, to address these concerns.
22. The Permittees did not clearly indicate how waste containers will be randomly selected for sampling from buried waste containers or newly generated containers. The Permittees indicated that randomly selected locations for sampling would be chosen for the waste stream as a whole. While this approach may appear to work for buried wastes, this approach does not appear to apply to newly generated wastes. Provide further clarification for the random selection process for unavailable waste containers. Pertinent locations in the PMR include:

- a) Attachment B2, Section B2-1a, *Statistical Selection of Containers for Totals Analysis*, page B2-4, 2<sup>nd</sup> paragraph; and
  - b) Attachment B2, Section B2-1b, *Statistical Selection of Containers for Headspace Gas Analysis*, page B2-7, 3<sup>rd</sup> paragraph.
23. The Permittees did not clearly define the regulatory thresholds proposed to assign hazardous waste numbers based upon headspace gas results. The regulatory threshold values for solid waste analysis are defined; the regulatory threshold for headspace gas analysis is not, and should be. Pertinent locations in the PMR include:

- a) Attachment B2, Section B2-1a, *Statistical Selection of Containers for Totals Analysis*, page B2-4, 2<sup>nd</sup> paragraph; and
- b) Attachment B2, Section B2-1b, *Statistical Selection of Containers for Headspace Gas Analysis*, page B2-7, 3<sup>rd</sup> paragraph.

#### **F. Audits and Inspections**

24. Attachment B-6, *Section B6-1, Introduction*, page 1, 1<sup>st</sup> paragraph, confirms NMED's status at an observer at Permittees' audits of generator/storage site and Permittee approved laboratories for sampling and analysis activities (AK, HSG, solid sampling and analysis). There is no clear language that extends this observer status to Permittees' surveillances of sites and approved laboratories, but the language addressing this issue has not been changed from that in the current Permit. As NMED has observed Permittees' surveillance under the current Permit, NMED expects this activity will continue under the revised Permit. However, the proposed Permit does not include a provision allowing NMED to observe waste verification and examination activities (RTR and VE) at generator/storage sites outside of New Mexico, and inspect those activities at sites within New Mexico, including the WIPP facility. The Permittees must revise the PMR to address these concerns.
25. Consolidated Response Document, Section 1.2.3, *Audit and Surveillance Program*, page 12, 3<sup>rd</sup> paragraph. The fourth bullet implies that RTR and VE will be audited annually but the B6-5 and B6-6 checklists from the current Permit have been deleted rather than revised. Because of this deletion, the requirement for auditing RTR and VE on an annual basis is ambiguous, as the Permittees have not defined the criteria that will be used to audit RTR and VE. The Permittees must revise the PMR to address these concerns.
26. Attachment B-6, *Section B6-3, Audit Position Functions*, page B6-4, last paragraph, proposes that for single entities at multiple sites, the annual audit approval will apply to all sites where the entity is performing the approved procedures and processes. Allowing approval in this manner does not take into account site-specific requirements and different personnel implementing the procedures and processes, and would only be appropriate if equipment, procedures and operators of the mobile facilities did not change

between sites. The Permittees did not address how sites will be chosen for audit and if every site will be audited within a defined time period. The revised Attachment B6 change matrix stated that the justification for this change was described in section 1.2.3 of the Consolidated Response Document. This section does not contain a justification for this change but only states the Permittees intention to do this. This section describes audit personnel tasks and does not appear to be appropriate place for this proposal. The Permittees must revise the PMR to address these concerns.

### **G. Repository Performance and VOC Monitoring**

27. The text of Section 311 states that VOC room based monitoring will be performed exclusively through air monitoring until panel closure. The Permittees assert that the use of HSG data can not be correlated to room based concentrations due to several factors. The Permittees should provide information showing what attempts have been made to make such a correlation and how the factors at play in a closed room differ significantly from the conditions encountered in a waste container when attempting to calculate an appropriate drum age criteria. Pertinent locations in the PMR include:
- a) Module IV, Section IV.D.1, *Room Based Limits*, page IV-4, 1<sup>st</sup> paragraph; and
  - b) Module IV, Section IV.F.2.g, *Remedial Action for Disposal Room Monitoring*, page IV-10, 1<sup>st</sup> paragraph
28. In Module IV, Permit Condition IV.F.2, Air Monitoring, pages IV-7 to IV-10, all paragraphs, the VOC monitoring program requires monitoring of nine specific VOC compounds, and uses available HSG data to correlate results for the existing nine compounds as well as to identify other potential VOCs on the HSG target list and possible TICs. However, the Permittees have not adequately accounted for the potential influx of other organic solids and poorly defined waste streams emplaced at WIPP. The Permittees must provide further justification for not expanding the VOC target list, specifically addressing this point.
29. In Module IV, Permit Condition IV.F.2, Air Monitoring, pages IV-7 to IV-10, the Permittees did not indicate what action will be taken in the event compounds other than the nine VOC monitoring compounds are identified in 25 percent or more of the VOC monitoring air samples collected in a given year. The Permittees did not address the possibility of such an event happening and did not include any provisions for adding additional compounds to the room monitoring target list. Provide revised permit language to address the addition of TICs to the room monitoring target list.
30. Module IV, Permit Conditions IV.F.2.f, IV.F.2.g, and Table IV.F.2.g, *Action Levels for Disposal Room Monitoring*, page IV-9 to IV-10, 1<sup>st</sup> paragraph, indicates that the 95% of room-based limits will only be monitored for closed rooms immediately adjacent to an open room. This section also indicates that the increased sampling for exceeding 50% of

room based limits in all closed rooms will continue until the concentrations fall below 50% or until closure of Room 1. The PMR does not clarify what action would be taken if the concentration continued to rise in a closed non-adjacent room to the point that it exceeded the 95% limit. The PMR does not define Room 1 and what significance this room has to monitoring VOC concentrations. Additionally, this protocol for monitoring room based VOC limits does not demonstrate how the proposed room based limits requirements of Module IV.D.1 would be met for all closed rooms in active panels. The Permittees must clarify the procedures for monitoring closed and open rooms to ensure that room based limits are not exceeded.

31. Module IV, Permit Condition IV.F.2.g, *Remedial Action for Disposal Room Monitoring*, page IV-10, 1<sup>st</sup> paragraph. This module does not specify what actions will be taken if an active room or closed room concentration exceeds the VOC room based limit. The current permit specified that the entire panel should be closed. Clarify what actions will be taken if an active or closed room exceeds the VOC room based limits.

#### **H. Quality Assurance**

32. Attachment B3, Section B3-12, *Waste Analysis Plan*, page 36, 4<sup>th</sup> paragraph, assigns responsibility for the nonconformance process to the Site Project Manager. This process is a Quality Assurance function and cannot be performed by line/operations management, but must be performed by independent Quality Assurance personnel, such as the Site project QA Officer. The Permittees must revise the PMR to reflect the appropriate responsibility.

#### **I. RH Waste**

33. The Permittees propose no different waste analysis approach for RH waste. However, the following should be considered and addressed:
- a) The PMR did not specify that RH and CH wastes would be considered separate waste categories, although separate RH and CH approvals by SCG should be required. If an RH waste goes through the AK route this is not an issue because the Permittees and NMED approve AK on a waste stream basis. If AK is so poor that characterization is required, the inference is that RH could be approved by SCG basis at sites and could even be "wrapped" into a CH SCG approval. The Permittees must clarify this issue.
  - b) RH radiological waste characterization methodologies use dose to curie and other methods unique to RH waste. The PMR, as written, allows for no such unique characterization processes and would require revision for these to be considered in the future.
  - c) The PMR implies that if AK is insufficient with respect to parameters that must be identified by visual examination and RTR, the Permittees will require 100% of

the waste be examined by either VE or RTR. The Permittees should consider a more statistically based or other approach to non destructively examining RH waste, as any changes to the "100%" mandate would require another PMR.

34. The Waste Analysis Plan associated attachments do not address waste compatibility between the various types of RH Wastes, or RH-Waste and CH-Waste. Determination of compatibility should be based on EPA or other referenced procedures, such as "A Method for Determining the Compatibility of Hazardous Waste"; EPA-600/2-80-076. In accordance with 40 CFR §264.117(c) incompatible waste should not be stored in the same areas and should be separated by dikes, berms, walls or other devices. The PMR does not address this. In addition, the PMR does not provide sufficient assurances of chemical compatibility of RH-Waste with waste containers or container liners, in which the waste will be stored. The Permittees must address these incompatibility issues. Pertinent portions of the PMR include:

- a) Attachment B, including Section B-3b *Waste Analysis Plan*, all pages
- b) Attachment B1 – *Waste Analysis Sampling Methods*, all pages (not addressed in the PMR)
- c) Attachment B3, *Quality Assurance Objectives for Waste Analysis Methods*, (not addressed in the PMR)
- d) Attachment B4, *TRU Mixed Waste Analysis using Acceptable Knowledge* (not addressed)
- e) Module III, *Container Storage, Compatibility of Waste with Containers*, page III-7
- f) Attachment D, *Container Storage* (does not address compatibility)
- g) Attachment E, *Preparedness and Prevention* (not addressed in PMR)
- h) Attachment F, *RCRA Contingency Plan, Section F-1* (not addressed in PMR for compatibility)

35. Table D-1a entitled "RH TRU Mixed Waste Inspection Schedule/Procedures," in the "procedure number" column, lists numerous DOE procedures under which specific equipment, devices or units will be inspected. Applicable information from these procedures, which are used to conduct the inspection, should be provided in the PMR, or all procedures listed in Table D-1a should be included in the PMR.
36. Expanded container storage in the proposed new CH Bay Storage Area (apparently including the former NE and TRUDOCK Storage Areas) is not diagrammed or outlined to show unit boundaries or adequate storage and aisle space. This new unit is not explicitly described as a new unit, although the name is changed, and the area and waste capacity of the unit are increased by more than 100% (compared to the previous NE and TRUDOCK unit areas). Similarly, specific RH waste storage locations are not defined in text or shown on figures. Appropriate revision should be made to the PMR to address these issues. Pertinent locations in the PMR include:

- a) Module III, Section III.A.1., *Waste Handling Building Container Storage Unit*, page III-1, 2<sup>nd</sup> paragraph
  - b) Attachment M1, Figure M1-1, *Waste Handling Building- Container Storage and Staging Areas*; and Figures M1-17a, b and c, (*RH Bay and other RH rooms*)
37. Expanded container storage in the Parking Area Unit is not diagrammed or outlined to show unit boundaries or adequate storage and aisle space. Although the permitted unit area is reduced from 115,000 square feet to 24,985 square feet, the maximum capacity is increased from 1,591 cubic feet to 7,160 cubic feet of waste. It is not clear whether the additional waste containers (a total of 50 CH packages and 14 RH packages) will fit into the reduced area, especially while maintaining required aisle space. This is the same quantity of waste proposed for "staging" in the new Parking Area Staging Area (area = 156,656 square feet) as shown in Attachment A, Table A-2. It is unclear whether the total number of waste packages is intended to be distributed between the permitted unit and the Staging Area, or if each area is intended to hold up to the total number of waste packages. Appropriate revisions should be made to the PMR to address these issues. Pertinent locations in the PMR include:
- a) Module III, Table III.A.2- *Parking Area Unit*, page III-4
  - b) Attachment M1, Figure M1-2, *Parking Area- Container Staging and Storage Areas*
38. RH and total waste volumes to be emplaced in underground HWDUs are not consistently specified. Proposed Module IV, Table IV.A.1 states that 750 RH TRU Canisters may be disposed in Panel 3 and each future panel. However, Attachment I, Section I-1c, and Attachment M2, Sections M2-1 and M2-2b, state that the total number of RH canisters per panel will be 730. Similarly, the total volume of TRU mixed waste to be emplaced in Panel 3 and future panels is stated in Module IV, Table IV.A.1 as 660,000 cubic feet, but in Attachment I the total volume per panel is given as 662,400 cubic feet. Appropriate revisions should be made to the PMR to address these issues. Pertinent locations in the PMR include:
- a) Module IV, Table IV.A.1, *Underground HWDUs*, page IV-2
  - b) Attachment I, Section I-1c, *Maximum Waste Inventory*, page I-4, 3<sup>rd</sup> paragraph
  - c) Attachment M2, Section M2-1, *Description of the Geologic Repository*, page M2-1, 4<sup>th</sup> paragraph, and Section M2-2b, *Geologic Repository Process Description*, page M2-3, 3<sup>rd</sup> paragraph
39. The limitation of RH waste disposal to 730 canisters per panel in Attachment M2 is "based on thermal and geomechanical considerations," but these considerations are not identified, explained or referenced. The basis for this limitation may have been included in previous submittals, which should, at a minimum, be referenced. If not previously submitted, the thermal and geomechanical considerations should be fully identified and

discussed in the PMR and/or supporting documentation. Pertinent locations in the PMR include:

- a) PMR Section 1.1, *Remote-Handled TRU Mixed Waste*, page 5, 2<sup>nd</sup> paragraph
  - b) Attachment M2, Section M2-1, *Description of the Geologic Repository*, page M2-1, 4<sup>th</sup> paragraph; and
  - c) Section M2-2b, *Geologic Repository Process Description*, page M2-3, 3<sup>rd</sup> paragraph
40. The Permittees state in Aisle Space Requirements, Permit Condition III.A.1.f, "For RH TRU mixed waste sufficient aisle space will be maintained to assure that emergency equipment can be accessed or moved to the necessary locations." The Permittees must elaborate on this statement, providing, at a minimum, specific minimum aisle space for RH waste as is provided for the CH waste in the above permit conditions. In permit condition III.A.2.e, the Permittees indicate that 4 ft minimum spacing will be maintained "... between Contact or Remote handled packages not on trailers." This part of the statement is ambiguous and should be clarified as to what is meant by packages not on trailers. Pertinent locations in the PMR include:
- a) Permit Module III, *Container Storage*, Permit Condition III.A.1.f and III.A.2.e, pages III-3 and III-5 of the PMR respectively.
  - b) Attachment E, *Preparedness and Prevention*, Section E-1b, Aisle Space Requirements, page E-1, 3<sup>rd</sup> paragraph
41. All Emergencies, RH TRU Mixed Waste, Attachment F, page F-13, 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> paragraph, does not provide sufficient information on how a RH-TRU mixed waste incident will be controlled, contained, or mitigated. The description indicates that the evaluation will be made by cognizant managers, the RCRA Emergency Coordinator, and radiological control personnel. However, the Contingency Plan should also address the steps that will be taken to handle an RH TRU mixed waste emergency. The Permittees must provide detailed descriptions of the control, containment and corrective action criteria used.
42. Attachment F (Contingency Plan) of the PMR indicates that "more extensive inspection of the areas (RH storage areas) is performed at least annually during routine maintenance periods when waste is not present." The PMR must address the specific procedures of inspection of the RH storage areas. If the procedures are described in one or more of the Standard Operating Procedures listed in Table D-1a, then a brief narrative in the actual text should be provided.
- a) Attachment F, Section F-1, page F-9, 4<sup>th</sup> paragraph
  - b) Attachment E, *Preparedness and Prevention* (not addressed)
  - c) Attachment D, Table D-1a, pages D-8 through D-15

43. Attachment F, Contingency Plan, Section F-1, states on page F-4 that waste containers will be checked for surface contamination. However, there is no procedure described on how this will be done. The procedure should be described and a determination provided as to what is an acceptable level or limit of contamination on the outside surface.
44. The spacing of boreholes for RH canisters is not provided in Attachment M2 (Geologic Repository) or elsewhere, although previous submittals by the Permittees (not part of this PMR) stated that boreholes would be spaced on 8 feet centers. Previous comments on borehole closure and failure in review of the 2003 RH PMR (comments S-23 and S-24) were not adequately addressed. The procedure for emplacement of RH canisters in Attachment M2 does not include checking the predrilled boreholes for creep closure or spalling, although the time period between drilling and emplacement may be months or even a year or more. If a borehole has partially closed, or if small pieces of salt or anhydrite debris are present in the borehole when a canister is inserted, jamming or binding of the canister may occur when the canister is only partially inserted into the borehole. This could in turn result in difficulties in removing the canister, and in the worst case, rupture of the canister and release of wastes. The RH emplacement procedure should include checking and documenting the condition of each borehole, and removal of debris if necessary, prior to setting up the horizontal emplacement and retrieval equipment at that borehole.
- a) PMR Section 1.1, *Remote-Handled TRU Mixed Waste*, page 5, 2<sup>nd</sup> Attachment M2,
  - b) Section M2-1, *Description of the Geologic Repository*, page M2-1, 4<sup>th</sup> paragraph
  - c) Section M2-2b, *Geologic Repository Process Description*, page M2-3, 1<sup>st</sup> paragraph
45. The PMR asserts that all modeling assumptions, parameters, and inputs used in the Permit Application used to meet Subpart X Risk assessment requirements remain unchanged for RH waste and that the previous assessment included RH waste. However, previous assessments conducted for WIPP and reviewed as part of the original Permit hearing in March, 1999 makes no mention of RH waste as that was not included in the original determination. NMED agrees that the modeling results are applicable to the CH inventory (assuming that the new inventory has been taken into account), however, additional justification and information (which may include additional modeling) is required to demonstrate the applicability to the RH inventory. The Permittees must provide this information in their response to this NOD.

#### **J. WIPP Waste Information System (WWIS)**

46. Attachment B7, Section B7-1a(2) WWIS Description, page B7-6, 4<sup>th</sup> paragraph, indicates that the Permittees will verify, through the WWIS, the waste matrix code, determination



of ignitability/corrosivity/reactivity, and determination of compatibility of each waste container. The Permittees must also verify the hazardous waste numbers for each waste container to ensure that the numbers are consistent with those allowed by the permit and consistent with those indicated for a particular waste stream. In their response to this NOD, the Permittees must clearly indicate in this section that the hazardous waste numbers for each container are also verified.

#### **K. Closure Plan**

47. Attachment I, Closure Plan, is unclear as to which Panels are covered by the closure plan in the PMR. Section I-1, page 1-2, indicates panels 1 through 8 are subject to closure, Section I-1 c, page I-4, 2<sup>nd</sup> paragraph, indicates panels 1-4 and 9-10 are subject to closure. The Permittees must resolve this discrepancy in their response to this NOD.

#### **L. Staging Areas**

48. Definitions proposed for Waste Receipt and Staging Areas do not specify which currently permitted storage units or portions of units are to be closed and converted to Staging Areas. The definition of "Proposed Waste Receipt" is confusing, and not necessary to allow for performing manifest verification or custody transfer. The Permittees should delete this definition. The definition of "Staging Area" expands the regulatory definition (*see* March 4, 2005 Federal Register notice for the final Hazardous Waste Manifest Rule) to include the time period for "manifest review, awaiting placement in permitted storage areas or undergoing screening and verification" prior to rejection of a non-compliant waste load. The discussion of staging areas in the Rule applies to wastes held after determining them to be non-compliant with a facility's waste acceptance criteria. The Permittees should use the regulatory definition of "Staging Area". Pertinent locations in the PMR include:

- a) PMR Section 1.2.5, *Use of Staging Areas*, page 14, 3<sup>rd</sup> through 6<sup>th</sup> and footnote 6.
- b) Module I, Section I.D.8., *Waste Receipt*, page I-1, 3<sup>rd</sup> Module I, Section I.D.9., *Staging Areas*, page I-1, 4<sup>th</sup> paragraph.

49. Container storage units or portions of units to be closed and converted to unpermitted Staging Areas are not explicitly identified. Schedules are not proposed for closure of the units or portions of units to be converted to Staging Areas. The Staging Areas are not considered permitted units, but are nevertheless included in the Closure Plan (although not in the "maximum extent of operations"). The current Closure Plan explicitly assumes (page I-1) that no surface HWMU will be closed until final facility closure is underway -- after closure of all underground HWDUs. This contradicts the statement in Section 1.2.5 of the PMR narrative (*Use of Staging Areas*, 2<sup>nd</sup> paragraph) which indicates that "Permitted storage areas that will be changed to staging areas will undergo closure..." The current Closure Plan, Section I-1d (4), requires submittal of an amended Closure

Plan at least 60 days prior to a proposed change in design or operations. The Permittees must resolve these discrepancies. Pertinent locations in the PMR include:

- a) Attachment I, Section I-1, *Introduction*, page I-1, 1<sup>st</sup> paragraph
- b) Attachment I, Section I-1, *Closure Plan*, page I-2, 2<sup>nd</sup> and 4<sup>th</sup> paragraph
- c) Attachment I, Section I-1a(1), *Container Storage Units*, page I-3, 4<sup>th</sup> paragraph and page I-4, 2<sup>nd</sup> paragraph
- d) Attachment I, Section I-1, *Maximum Waste Inventory*, page I-4, 4<sup>th</sup> paragraph